

Application No.: 10/539,954
 Amendment dated March 7, 2008
 Reply to Office Communication of September 7, 2007

Docket No.: 13195-00006-US

AMENDMENTS TO THE CLAIMS

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Listing of Claims:

1. (Currently amended) A process for preparing ~~amino acids selected from the group of~~ methionine, homoserine and/or lysine in a transgenic organism[[s]], wherein the process comprises the following steps:
 - a) ~~introduction of introducing~~ a nucleic acid comprising a nucleotide sequence ~~which codes for encoding a threonine-degrading protein or lysine-degrading protein or codes for a threonine-degrading protein and lysine-degrading protein, or~~
 - b) ~~introduction of a nucleic acid sequence~~ which increases threonine degradation or ~~lysine degradation or threonine degradation and lysine degradation in the a~~ transgenic organism[[s]], and
 - e) b) ~~expression of a nucleic acid~~ expressing the nucleotide sequence mentioned under (a) or (b) in the transgenic organism, and
 - c) harvesting the transgenic organism or obtaining one or more of the amino acid methionine, homoserine, or lysine.
2. (Currently amended) A ~~process for preparing amino acids in transgenic organisms as claimed in~~ The process of claim 1, wherein the ~~process comprises the following steps, solved:~~
 - ~~a) introduction of a nucleic acid~~ nucleotide sequence ~~which codes for encoding a~~ threonine-degrading protein ~~which comprises the following consensus sequence of~~
 H[X]₂G[X]R[X]₁₉D[X]₇K[X]₂₇G (SEQ ID NO: 27), or
 HXDGAR[X]₃A[X]₁₅D[X]₄CXSK[X]₄PXGS[X]₃G[X]₇A[X]₄K[X]₂GGGXRXQG
 (SEQ ID NO: 28) ~~or~~
 - ~~b) introduction of a nucleic acid sequence~~ which increases threonine degradation in ~~the transgenic organism, and~~

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~~— e) — expression of a nucleic acid sequence mentioned under (a) or (b) in the transgenic organism.~~

3. (Cancelled)

4. (Currently amended) ~~A process for preparing amino acids in transgenic organisms as claimed in~~ The process of claim 1, wherein the process comprises the following steps, solved:

a) ~~introduction of a nucleic acid~~ nucleotide sequence ~~which codes for encoding~~ a threonine-degrading protein which comprises the following consensus sequence of
 H[X]₂G[X]R[X]₁₉D[X]₇K[X]₂₇G (SEQ ID NO: 27), or
 HXDGAR[X]₃A[X]₁₅D[X]₄CXSK[X]₄PXGS[X]₃G[X]₇A[X]₄K[X]₂GGGXRXQG (SEQ ID NO: 28),

~~and introduction of the process further comprises introducing a nucleic acid comprising a~~ nucleotide sequence ~~which codes for encoding~~ a lysine-degrading protein which comprises the following consensus sequence of

G[X]₄GIM[X]₄₅M[X]₂RK[X]₂M[X]₁₁GGXG[X]₃E[X]₂E[X]₃W (SEQ ID NO: 29), or
 LG[X]₉LVYGG[X]₃GIMGXVA[X]₉G[X]₃GXIP[X]₂₄MHXRK[X]₂M[X]₆F[X]₃PGG
 XGTXEE[X]₂E[X]₂TW[X]₂IG[X]₃KP[X]₄N[X]₃FY[X]₁₄F (SEQ ID NO: 30), or

b) ~~introduction of a nucleic acid sequence which codes for encoding a protein~~[[s]] which increases threonine degradation and lysine degradation in the transgenic organism[[s]], and

e) ~~expression of a nucleic acid sequence mentioned under (a) or (b) in the transgenic organism.~~

5. (Currently amended) ~~A~~ The process for preparing amino acids in transgenic organisms as claimed in of claim 1, wherein there is introduction in process step (a) as set forth in claim 1 of a the nucleic acid sequence which is selected from the group of nucleic acid sequences: comprises

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- i) ~~of a nucleic acid the nucleotide sequence having the sequence depicted in of SEQ ID NO: 1; SEQ ID NO: 11; SEQ ID NO: 13; SEQ ID NO: 15; SEQ ID NO: 17; SEQ ID NO: 19; SEQ ID NO: 21; SEQ ID NO: 23 or SEQ ID NO: 25;~~
 - ii) ~~of a nucleic acid sequence obtained owing to the degeneracy of the genetic code through back translation of encoding the amino acid sequence depicted in of SEQ ID NO: 2; SEQ ID NO: 12; SEQ ID NO: 14; SEQ ID NO: 16; SEQ ID NO: 18; SEQ ID NO: 20; SEQ ID NO: 22; SEQ ID NO: 24 or SEQ ID NO: 26; and~~
 - iii) ~~of a derivative of the nucleic acid sequence depicted in SEQ ID NO: 1; SEQ ID NO: 11; SEQ ID NO: 13; SEQ ID NO: 15; SEQ ID NO: 17; SEQ ID NO: 19; SEQ ID NO: 21; SEQ ID NO: 23 or SEQ ID NO: 25; which codes for or a nucleotide sequence encoding a polypeptide[[s]] having at least 70% sequence identity to the amino acid sequence depicted in of SEQ ID NO: 2; SEQ ID NO: 12; SEQ ID NO: 14; SEQ ID NO: 16; SEQ ID NO: 18; SEQ ID NO: 20; SEQ ID NO: 22; SEQ ID NO: 24 or SEQ ID NO: 26 and have at least 50% homology at the amino acid level, with a negligible reduction in the biological threonine-degrading activity of the polypeptides SEQ ID NO: 2.~~
6. (Cancelled)
 7. (Currently amended) A The process for preparing amino acids in transgenic organisms as claimed in of claim 1, wherein the transgenic organism is cultivated and harvested after introduction and expression of the nucleic acid.
 8. (Currently amended) A The process for preparing amino acids in transgenic organisms as claimed in of claim 1, wherein the amino acid is isolated from the transgenic organism, or the culture medium, or the transgenic organism and the culture medium.
 9. (Currently amended) A The process for preparing amino acids in transgenic organisms as claimed in of claim 1, wherein the essential amino acid methionine is involved.
 10. (Currently amended) A The process for preparing amino acids in transgenic organisms as claimed in of claim 1, wherein the transgenic organism is a microorganism or a plant.

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11. (Currently amended) A ~~The process for preparing amino acids in transgenic organisms as claimed in~~ of claim 10, wherein the transgenic organism is a microorganism selected from the group of genera ~~Corynebacterium, Brevibacterium, Escherichia, Bacillus, Rhodotorula, Hansenula, Schizosaccharomyces, Saccharomyces, Candida, Claviceps or Flavobacterium~~ Corynebacterium, Brevibacterium, Escherichia, Bacillus, Rhodotorula, Hansenula, Schizosaccharomyces, Saccharomyces, Candida, Claviceps and Flavobacterium.
12. (Currently amended) A ~~The process for preparing amino acids in transgenic organisms as claimed in~~ of claim 10, wherein the transgenic organism is a plant selected from the group of crop plant[[s]].
13. (Currently amended) A ~~The process for preparing amino acids in transgenic organisms as claimed in~~ of claim 12, wherein the transgenic organism is a plant selected from the group consisting of peanut, oilseed rape, canola, sunflower, safflower, olive, sesame, hazelnut, almond, avocado, bay, pumpkin, lettuce, flax, soybean, pistachio, borage, corn, wheat, rye, oats, millet, triticale, rice, barley, cassava, potato, sugar beet, feed beet, aubergine, tomato, pea, alfalfa and perennial grasses and feed crops.
14. (Currently amended) A ~~The process for preparing amino acids in transgenic organisms as claimed in~~ of claim 1, wherein the ~~nucleic acid~~ nucleotide sequence is derived from a eukaryote.
15. (Currently amended) A ~~The process for preparing amino acids in transgenic organisms as claimed in~~ of claim 1, wherein the ~~nucleic acid~~ nucleotide sequence is derived from the genus Saccharomyces.
16. (Currently amended) A ~~The process for preparing amino acids in transgenic organisms as claimed in~~ of claim 1, wherein the nucleic acid sequence is ~~for introduction and for expression~~ incorporated into a nucleic acid construct or a vector for introduction and expression in said transgenic organism.

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17. (Currently amended) A ~~The process for preparing amino acids in transgenic organisms as~~
~~elaimed in~~ of claim 1, wherein additionally additional biosynthesis genes of the amino
acid prepared in the process are introduced into the organism.
- 18-25. (Cancelled)
26. (New) The process of claim 1, wherein the nucleic acid comprises a nucleotide sequence
encoding a polypeptide having at least 95% sequence identity to the amino acid sequence
of SEQ ID NO: 2 with a negligible reduction in the threonine-degrading activity of SEQ
ID NO: 2.
27. (New) A process for producing an animal or human food, cosmetics or pharmaceuticals,
comprising obtaining the amino acids produced according to the process of claim 1, and
formulating the amino acids into an animal or human food, cosmetics or pharmaceuticals.